UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
1595 Wynkoop Street
DENVER, CO 80202-1129
Phone 800-227-8917
http://www.epa.gov/region08

SEP 2 0 2010

Ref: EPR-N

Erica Walters
Western Area Power Administration
Department of Energy
P.O. Box 281213
Lakewood, CO 80228-8213

Re: Draft Environmental Impact Statement for Modification of the Groton Generation Station Interconnection Agreement, CEQ #20100285

Dear Ms. Walters:

The Environmental Protection Agency (EPA) Region 8 has reviewed the Draft Environmental Impact Statement (EIS) for the Modification of the Groton Generation Station Interconnection Agreement. We provide our comments in accordance with our review under Section 102(2)(C) of the National Environmental Policy Act (NEPA), 42 U.S.C. 4332(2)(C), and Section 309 of the Clean Air Act, 42 U.S.C. 7609.

Basin Electric Power Cooperative (Basin Electric) has requested the Western Area Power Administration (Western) eliminate the operating limit from their Large Generator Interconnection Agreement (LGIA) for the Groton Generation Station, located approximately five miles south of Groton, South Dakota. The current operating limit imposed by Western prevents Basin Electric's production at the Groton Generation Station from exceeding 50 MW on an average annual basis. The Station's maximum production capability is 100 MW; however, this full capacity would not be available to the plant because it would result in violation of its Clean Air Act permit. Elimination of Western's operating limit, the proposed action, will result in the Clean Air Act permit becoming the new effective cap on its generation capabilities and an approximate 70% increase in both carbon dioxide and water usage based on Table 2.6-1 of the Draft EIS. Correspondingly, an increase in air emissions is also expected.

In completing our review, EPA has identified several recommendations for additional consideration and disclosure in the Final EIS. We hope to assist Western with full exploration of alternatives and the identification and implementation of important mitigation tools. While EPA appreciates Western's concise approach for development of the Draft EIS, we generally recommend

expansion of the information and analysis presented. The document does not fully characterize the impacts of the proposed action (direct, indirect, or cumulative) or connected actions. We have summarized our comments below and provide our detailed comments in an enclosure to this letter.

EPA is concerned that the Draft EIS does not evaluate all reasonable alternatives associated with the project purpose and goal. It does not discuss alternatives such as demand-side management, or increased plant efficiency that could, at least in part, address the increased demand for power. EPA recommends that the Draft EIS consider reasonable alternatives, such as these, that may be outside of Western's authority. EPA also recommends that the Final EIS further characterize the project need and include a description of the original basis for the operating limit in the LGIA. Further characterization of the project need would include additional information regarding the amount of additional production capability needed and the expected population growth (when, where, and how much). Section 1.0 of the Draft EIS notes a deficit of 800-900 MW for the eastern portion of the system. An assessment of what portion of this deficit will be satisfied by the proposed action and a more detailed description of expected population growth may aid in illumination of alternatives, connected actions required to support the project, and impacts that are indirect or cumulative.

EPA recommends that Western provide additional information to substantiate and clarify its assessment of project impacts. The conclusion that cumulative air impacts will not exceed significance criteria references an analysis; however, the analysis and criteria are neither summarized nor included. We recommend inclusion of the analysis and a description of the significance criteria.

The Groton Generation Station alone comprised 9.64% of South Dakota's 2005 carbon dioxide emissions (page 4-8). The Station appears to represent a notable fraction of South Dakota's total greenhouse gas production. EPA recommends clarifications, updates, and revisions to the discussion of greenhouse gas emissions and their impacts. It would be helpful for Western to clarify greenhouse gas emissions in terms of carbon dioxide-equivalents for annual emissions and the life of the project based on current operations, current allowable emissions, and the proposed action's allowable emissions. We note the need to update the document with respect to some of EPA's regulatory activities regarding greenhouse gases. Finally, we recommend including a discussion of any opportunities to mitigate those impacts.

The Draft EIS does not fully address indirect project impacts. EPA recommends discussion and consideration of the indirect effects of connected actions triggered by the project and, if necessary, expansion of the affected area description. For example, the Draft EIS should address whether increased natural gas production will be necessary to support the increased power generation capabilities of the plant and, if so, what impacts, such as increased greenhouse gas emissions, would occur and where.

Consistent with Section 309 of the Clean Air Act, it is EPA's responsibility to provide an independent review and evaluation of the potential environmental impacts of this project. As Western did not identify a preferred alternative in the Draft EIS, EPA's rating is based on the proposed action alternative. Based on the procedures EPA uses to evaluate the adequacy of the information and the potential environmental impacts of the proposed action, EPA is rating this Draft EIS as

Environmental Concerns – Insufficient Information, "EC-2". The EC-2 rating means EPA identified potential environmental impacts to air quality and water quality that should be avoided or reduced. EPA also concludes that the Draft EIS does not contain sufficient information to fully assess environmental impacts that should be avoided in order to fully protect the environment. EPA did identify opportunities for additional information disclosure and mitigation. A full description of EPA's EIS rating system is enclosed.

If you have any questions regarding our comments or this rating, please contact me at 303-312-6004 or Maggie Pierce of my staff at 303-312-6550.

Sincerely,

Larry Svoboda
Director, NEPA Compliance and Review Program
Office of Ecosystems Protection and Remediation

Enclosures

EPA Region 8 Detailed Comments
Modification of Groton Generation Station
Interconnection Agreement Draft EIS

Alternatives Analysis

EPA is concerned that the Draft EIS does not evaluate all reasonable alternatives associated with the project purpose and goal. The purpose and need of the project are described as "the need for additional peaking resource to serve projected additional member load growth (page ES-2)." The Draft EIS presents only the proposed alternative and the no action alternative; however, the Draft EIS should "[i]nclude reasonable alternatives not within jurisdiction of the lead agency" (40 CFR 1502.14(c)). The Draft EIS mentions one additional alternative wherein Groton Generation Station would generate electricity at a level which would cause it to violate its Clean Air Act permit but indicates that this alternative was considered infeasible because it was outside Western's authority. While EPA does not consider this alternative to be a reasonable one given the facility's current permit limits, the Draft EIS should consider other reasonable alternatives that may be outside of Western's authority.

When considering alternatives, EPA encourages consideration and discussion of demand side management through energy conservation and whether increased power production through increased plant efficiency or renewable energy sources could cover base-load demand to free up Groton Station peaking capacity. We recommend that the Final EIS consider these measures that could serve, at least in part, to address the increased demand for power within the service area. These mechanisms may not only serve to reduce the project's contribution to air emissions, greenhouse gas emissions, and demand for water but may also serve to prolong the life of the facility. Section 5.3 of the Draft notes "[e]limination of the operating limit [imposed by Western] could shorten the life of the facility, since the generating station could operate more often." Reduction in the need for the plant to operate would feasibly reduce wear and tear, prolonging the period over which the plant is operable.

Purpose and Need

EPA recommends that the Final EIS include further characterization of the project need. The need for the project is stated but not characterized. Additional characterization may provide foundational information to address some of EPA's other comments regarding connected actions, indirect effects, and cumulative effects.

It is important to understand whether this project is part of a larger effort to increase peaking power generation capability. Basin Electric has proposed elimination of the operating limit imposed by Western in order to meet an "additional peaking demand for a projected member load growth (page ES-2)." Section 1.0 indicates that there will be a deficit of 800-900 MW for the eastern portion of the system by 2014. An assessment of how much of this deficit will be satisfied by the proposed action may aid in illumination of alternatives, connected actions, and cumulative impacts.

Section 1.2 indicates that although growth is anticipated in every consumer class, the need for increased peaking capability is primarily in response to anticipated growth in the commercial load

within the summer months. It describes the increased demand as being located in the eastern portion of its nine-state service area (western Nebraska, northwestern and central Iowa, portions of southern Minnesota, all of South Dakota, portions of eastern Montana, and western and central North Dakota). It does not characterize how much population growth is expected or specifically where it may occur. This information may not only help justify the project but may also to help other decision-makers evaluate and plan for the project. Beyond refinement of the project area, additional description of when, where, how much, and what type of population growth is projected may also aid in illumination of connected actions required to support the project and the indirect and cumulative impacts.

EPA also recommends that Western describe the original basis for the operating limit it imposed in the LGIA. Understanding why Western included the 50 MW operating limit in its original agreement with Basin Electric may further illustrate the need for the project or highlight connected actions and additional alternatives. Again, this piece of information may be important for decision-makers affected by the project.

Environmental Consequences

1. Air Quality

   The Draft EIS refers the reader to the prevention of significant deterioration (PSD) air quality permit, which was granted for the permitted facility to operate at the increased production rate of 787 Million BTU/hr per unit. The Final EIS should present and discuss the air impact analysis results to substantiate the Draft EIS conclusion that no adverse impacts will occur from Western's proposed action, which enables an increased production rate.

   On January 22, 2010, EPA announced a new hourly NO_2 standard of 100 ppb based on the 3-year average of the 98th-percentile of the annual distribution of daily maximum 1-hour concentrations. The final rule for the new hourly National Ambient Air Quality Standard (NAAQS) was published in the Federal Register on February 9, 2010, and the standard was effective on April 12, 2010. Since the air quality permit application was submitted (November 2006), no analysis was conducted for this new NAAQS. The Final EIS should include the results from near field modeling for the 1-hour NO_2 NAAQS.

2. Greenhouse Gases

   The Groton Generation Station alone comprised 9.64% of South Dakota's 2005 carbon dioxide emissions (Draft EIS, page 4-8). The basis or supporting data for this number should be disclosed in the Final EIS. Also, the station's current actual emissions, the station's current allowable emissions, and the allowable emissions based upon the proposed action are not clear. EPA recommends Western clarify what value it considers to represent the station's current actual carbon dioxide emissions, what value represents the station's current allowable carbon dioxide emissions, what value represents allowable carbon dioxide emissions under the proposed action and the rationale and supporting data for those values. The Draft EIS presents a number of different values for carbon dioxide emissions from the plant under its current agreement. It is not

apparent which value Western considers to be representative of the current actual emissions. The value in the table on page ES-4 is based upon the 2008 emission rate (up to 187,333 metric tons per year), the value in Table 2.1 is also based on 2008 data (205,860 tons/year), the value in Appendix A is based upon 2009 emissions (28095.78 tons/year), and Section 3.1.2 presents a value based upon 2009 production (25.49 thousand metric tons per year). The Draft EIS also presents a number of different values for carbon dioxide emissions from the plant as a result of the proposed action. The value in the table on page ES-4 is based upon the 2008 emission rate (318,192 metric tons per year) and the value in Table 2.1 is also based on 2008 data (349,563 tons/year).

The Final EIS should disclose all project-related greenhouse gas (GHG) emissions, not just carbon dioxide. The total GHG emissions should be presented in carbon dioxide-equivalent terms (CO_2e) for annual emissions as well as total GHG emissions expected over the lifetime of the proposed action. The Draft EIS uses EPA's equivalency calculator to describe projected emissions from the plant in terms of annual emissions from vehicles. It also presents information regarding carbon dioxide emissions to provide a sense of Groton Generation Station's contribution to greenhouse gas production on a global and state scale (Section 4.2.4). These estimates should be based on all project GHG emissions not just carbon dioxide.

In addition, the Final EIS discussion of the Clean Air Act and GHGs should be updated to reflect EPA's recent regulatory activities. Similarly, where the Draft EIS refers to draft Council on Environmental Quality (CEQ) GHG-NEPA guidance, it should reflect the recent CEQ Draft 2010 Guidance[1] not the Draft 1997 Guidance. It would also be helpful to describe how the proposal's GHG emissions may affect any relevant Regional, Tribal or State climate change initiatives, such as the Midwestern Greenhouse Gas Reduction Accord[2] of which South Dakota is an observer.

EPA also notes that the Draft EIS does not estimate the project's "upstream" indirect GHG emissions, including methane and carbon dioxide emissions from natural gas production supporting the Groton Generating Station and fugitive methane emissions from both transporting methane to the Groton Station and within the Station. Because this information may be of interest to the public in obtaining a complete picture of the GHG emissions associated with the proposed project, it may be helpful to estimate and disclose them.

EPA also recommends revising the discussion of the link between the proposal's GHGs and climate change risks. As described in the CEQ 2010 Draft Guidance, the estimated level of GHG emissions can serve as a reasonable proxy for assessing potential climate change impacts, and provide decision makers and the public with useful information for a reasoned choice among alternatives. Accordingly, to the extent that the proposed action (as compared to another alternative or no action), an alternative, or mitigation measures will result in lower GHG emissions, EPA recommends that the discussion reflect that lower GHG emissions overall would result in lower climate change risks. This discussion should also be addressed in the context of the cumulative impacts of GHG emissions.

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[1] http://ceq.hss.doe.gov/nepa/regs/Consideration_of_Effects_of_GHG_Draft_NEPA_Guidance_FINAL_02182010.pdf
[2] http://www.midwesternaccord.org/

We also believe the discussion of climate change in Chapter 3, "Affected Environment" would benefit from a summary discussion of ongoing and projected regional climate change impacts relevant to the action area, based on U.S. Global Change Research Program assessments. Similarly, we believe the Final EIS should include a discussion of whether and how the proposed action should be adapted in light of projected climate change impacts, as well as a discussion of whether the impacts of the proposed action may be exacerbated by climate change.

The Final EIS should analyze in detail potential means to mitigate the proposal's GHG emissions and disclose the estimated GHG reductions associated with such measures. Consistent with the Executive Order 13514 policy "…to make reductions of greenhouse gas emissions a priority for Federal agencies…" EPA recommends that Western commits to implementation of reasonable mitigation measures to reduce project-related GHG emissions. Such measures may include, but are not limited to 1) capture and sequestration of carbon dioxide at the plant, 2) emission reduction or improved efficiency at the plant, 3) carbon offsets, 4) investing in transmission lines for renewable energy, and 5) adding renewable energy sources and increased energy efficiency beyond that required by state law. The addition of renewable energy sources and increased energy efficiency are additional measures that could be used for mitigation. They were discussed within the alternatives section above; however, this does not preclude their use for mitigation.

3. Water Resources

The Draft EIS indicates that water usage will increase from a maximum of 33.6 acre-feet/year to 57 acre-feet/year (table, ES-4). This is approximately a 70% increase in water usage by the plant. Section 3.2 indicates that the facility does not discharge to surface water or groundwater but that Basin Electric transfers its process water offsite for treatment and discharges its non-contact cooling water to evaporation ponds. EPA recommends that Western address whether additional construction will be required for storage of the non-contact cooling water. If additional storage must be constructed, Western should describe how it will mitigate the impacts of that construction with a stormwater permit and associated best management practices.

EPA recommends Western explicitly address how much of the water utilized under both the current operating limit and the proposed action will be discharged to the evaporation ponds and lost. EPA also encourages Western to consider and discuss whether the quality and quantity of the non-contact cooling water are such that its reuse, either directly or through a process such as groundwater recharge and/or recovery, is a viable option. The groundwater recharge and recovery process would likely entail additional site-specific hydrogeologic evaluation and permitting through the South Dakota Department of Environment and Natural Resources (SDDENR)[3].

[3] SDDENR Groundwater Discharge Permitting. http://denr.sd.gov/des/gw/GWDischarge/GW_Discharge_Permit.aspx

4. Cumulative Impacts

EPA recommends that the Final EIS include the analysis that was used to support the determination that cumulative impacts are unlikely to exceed significance criteria and a description of the significance criteria. The Draft EIS describes two projects as reasonably foreseeable actions that were considered in the analysis for cumulative impacts. These projects are the Hyperion oil refinery and power plant and Basin Electric's Deer Creek Station, a 300-MW natural-gas fired power generation facility. In addition to these future sources, the document describes the James Valley Ethanol dBA POET biorefining facility located six miles from the Groton Generation Station and references future population growth that will be enabled by this project. Section 4.8.3 does not substantiate the conclusion that air emissions impacts from the Groton Generation Station are unlikely to be additive in a manner to exceed significance criteria. It does not explain the significance criteria nor does it present the analysis to support the conclusion.

The project may cumulatively contribute to water quality impairment in Lake Sharpe, the portion of the Missouri River downstream of the Oahe Dam. The water for the project is withdrawn from Lake Oahe on the Missouri River. Lake Sharpe, the portion of the Missouri River from the Oahe Dam to the Big Bend Dam, has been identified on South Dakota's 2010 Integrated Report as impaired for coldwater permanent fish life by temperature (page 126)[4]. The location in the water column of the dam release (top, middle, bottom) may affect this impairment, and it also may be affected by a reduction in flow. While it is unlikely that the WEB withdrawals for Groton are the sole contributor to impairment, they may cumulatively contribute to the impairment. EPA recommends Western consider this possibility and disclose the current impairment of the area immediately downstream of where the withdrawals for the project may be increased.

5. Indirect Impacts

The Draft EIS does not provide an assessment of indirect impacts to the project or from actions connected to the project. For example, the Draft EIS does not describe the supply for increased natural gas demand or what increases may be required to natural gas supplies or transmission capabilities for the project. Section 1.1 alludes to "system upgrades or additions necessary to accommodate the proposed project and ensure that they are in the project scope." EPA recommends that Western expand upon this statement to describe any additional planned activities which the project necessitates. As mentioned above in the greenhouse gas section, EPA also recommends discussion of increased production of natural gas or coal gasification and the impacts associated with such actions.

Environmental Justice

Since the proposed action is in an area that has both low-income as well as minority communities, the Final EIS should include an analysis of the impacts this action will have on these communities. The

[4] South Dakota Department of Environment and Natural Resources. 2010. The 2010 South Dakota Integrated Report for Surface Water Quality Assessment. http://denr.sd.gov/des/sw/documents/10IRFinal.pdf

Draft EIS does not do this. While the Draft EIS notes that Western mailed scoping meeting notices directly to Tribes, does not address whether Western held meetings or hearings in areas that might impact the greatest number of affected communities, including Tribes and low income communities. EPA recommends that the impacts to human health, economic and social effects of the proposed action on minority and low-income communities be discussed in the Final EIS.

According to the Council on Environmental Quality NEPA/Environmental Justice Guidance[5],

> *Federal agencies are to make the achievement of environmental justice part of their mission by identifying and addressing as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations, and allowing all portions of the population a meaningful opportunity to participate in the development of, compliance with, enforcement of Federal laws, regulations, and policies affecting human health or the environment regardless of race, color, national origin or income.*

In the memorandum to heads of departments and agencies that accompanied Executive Order 12898[6], the President specifically recognized the importance of procedures under NEPA for identifying and addressing environmental justice concerns. The memorandum states "each Federal agency shall analyze the environmental effects, including human health, economic and social effects, of Federal actions, including effects on minority communities and low-income communities, when such analysis is required by NEPA."

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[5] Council on Environmental Quality. December 1997. Environmental Justice Guidance Under the National Environmental Policy Act. http://ceq.eh.doe.gov/nepa/regs/ej/justice.pdf

[6] Executive Order 12898. February 1994. Executive Order on Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, and Memorandum. https://www.denix.osd.mil/denix/Public/Legislation/EO/note19.html

U.S. Environmental Protection Agency Rating System for Draft Environmental Impact Statements

Definitions and Follow-Up Action*

Environmental Impact of the Action

LO - - Lack of Objections: The Environmental Protection Agency (EPA) review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC - - Environmental Concerns: The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce these impacts.

EO - - Environmental Objections: The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no-action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU - - Environmentally Unsatisfactory: The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

Adequacy of the Impact Statement

Category 1 - - Adequate: EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis of data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2 - - Insufficient Information: The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new, reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses or discussion should be included in the final EIS.

Category 3 - - Inadequate: EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the National Environmental Policy Act and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

* From EPA Manual 1640 Policy and Procedures for the Review of Federal Actions Impacting the Environment. February, 1987.